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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,762	04/09/2004	Jong-Ki Lee	1567.1067	8810

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EXAMINER	
WEINER, LAURA S	

ART UNIT	PAPER NUMBER
1745	

MAIL DATE	DELIVERY MODE
08/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/820,762	LEE ET AL.	
	Examiner	Art Unit	
	Laura S. Weiner	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *10-20 and 25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9 and 21-24* is/are rejected.

7)☒ Claim(s) *8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3-05; 2-07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-9, 21-24 and species being a nitride in the reply filed on 7-20-07 is acknowledged. The traversal is on the ground(s) that searching the product claims and the method claims would not be a burden to the examiner to search. This is not found persuasive because Group I, claims 1-9, 21-24, would be searched in 429, subclass 128 versus Group II, claims 10-20, newly submitted claim 25, needing a search in 427, subclass 58 which would not be required for Group I. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such that the lithium metal does not have to be put under a gas.

The requirement is still deemed proper and is therefore made FINAL

2. Claims 10-20, 25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7-20-07.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-7, 9, 21-24 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cho et al. (US 2004/0072066).

Cho et al. teaches a lithium metal anode having a lithium metal layer, a protective coating thereon and then a porous polymer film on the protective coating. The protective coating layer having lithium ionic conductivity. Cho et al. teaches on

page 2, [0022], that the protective coating layer may be an inorganic material layer having lithium ionic conductivity and can be lithium nitrides, etc. Cho et al. teaches on page 2, [0024], that the thickness of the inorganic protective material layer is in the range of 0.01-2 um. Cho et al. teaches on pages 2-3, [0032], a lithium battery comprising a cathode and the lithium metal anode.

Since Cho et al. teaches the same protective layer material, lithium nitride (Li3N) formed on the lithium metal then inherently the same anode comprising a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than1X10-4 or 1X10-3 must also be obtained.

In addition, the presently claimed property of a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than 1X10-4 S/cm or 1X10-3 S/cm would have obviously have been present once the Cho et al. product is provided. *In re Best, 195 USPQ 433 (CCPA 1977).*

6. Claims 1-7, 9, 21-24 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cho et al. (KR 2004026370, translation and abstract).

Cho et al. teaches in claims 1-8, an anode comprising a lithium metal layer in which more than just protective layer is formed. Cho et al. teaches in claims 6-8, that the protective layer is an inorganic protecting layer which can be lithium nitride, etc. and consists of a thickness of 2 um through 0.01. Cho et al. teaches in claim 13 that a secondary lithium battery including the anode.

Since Cho et al. teaches the same protective layer material, lithium nitride (Li3N) formed on the lithium metal then inherently the same anode comprising a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than1X10-4 or 1X10-3 must also be obtained.

In addition, the presently claimed property of a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than 1X10-4 S/cm or 1X10-3 S/cm would have obviously have been present once the Cho et al. product is provided. *In re Best, 195 USPQ 433 (CCPA 1977).*

7. Claims 1-7, 9, 21-24 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bates (5,314,765)

Bates teaches in column 2, Figure 2, a battery (4) comprising a lithium anode (42) where there is a protective film (48) overlying so as to coat the anode (42). The protective film includes two layers in which the first layer (50) is directly contacting the anode surface and is comprised of a solid film of lithium nitride (Li3N). Bates teaches in column 3, that the protective layer thickness is between 0.05-0.1 um.

Since Bates teaches the same protective layer material, lithium nitride (Li3N) formed on the lithium metal then inherently the same anode comprising a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than1X10-4 or 1X10-3 must also be obtained.

In addition, the presently claimed property of a protective layer comprising a material having an ion conductivity greater than or equal to 5X10-5 S/cm or greater than

1X10-4 S/cm or 1X10-3 S/cm would have obviously have been present once the Bates product is provided. *In re Best, 195 USPQ 433 (CCPA 1977).*

Allowable Subject Matter

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura S Weiner
Primary Examiner
Art Unit 1745

August 20, 2007